

ABSTRACT

A novel modular muffle etch injector assembly for use in a gas blanketed down-flow chemical vapor deposition apparatus of the type having a muffle and a modular gas injector assembly for introducing chemical vapors into a deposition chamber, the muffle being adapted for receiving and supporting the gas injector assembly, wherein deposition material residue collects on a lower surface of the muffle. The etch injector assembly of the present invention comprises an etch chamber having vertical sidewalls, a closed top end and an open bottom end, a supply mechanism for introducing a liquid etchant into the etch chamber, and a sealing device disposed along the open end of the etch chamber for providing a seal between the etch chamber and the lower surface of the muffle to confine the etchant to the etch chamber. The etch injector assembly preferably also includes an exhaust means for removing chemical vapors from the etch chamber. The etch injector assembly is adapted to replace the gas injector assembly within the deposition chamber during maintenance operations for removing the residue from the lower surface of the muffle by introducing the liquid etchant into the etch chamber and on to the lower surface of the muffle.